ABSTRACT

Effect of Antidepressant Fluvoxamine on HSP-70 Expression in Stress- and NSAID-induced Peptic Ulcer

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Peptic ulcer is a localized lesion of gastric mucosa caused by necrotic mucosa and appears as erosion or ulcer. The objective of this research was to investigate the effect of antidepressant fluvoxamine on peptic ulcer, and it's mechanism. Mice were devided into seven groups, in the stress group, animal was restrained in 50 ml syringe for 6 hours. In the NSAID group, indomethacine 25mg/kg was administered intragastric and waited for 6 hours until sacrificed. Fluvoxamine was administered 30 minutes before stress or indomethacine administration.

This study showed that fluvoxamine has gastroprotective effect on peptic ulcer induced by stress and NSAID. Fluvoxamine 100 mg/kg significantly decreased ulcer index in peptic ulcer induced by stress ($p< 0.0001$) and NSAID ($p =0.0023$). Fluvoxamine also decreased intraluminal bleeding in NSAID-induced ($p=0.0101$) and stress-induced peptic ulcer ($p=0.0018$). While fluvoxamine 50 mg/kg significantly decreased ulcer index in peptic ulcer induced by stress only ($p=0.0417$) and had small effect on intraluminal bleeding. Compared to healthy animal group, HSP-70 protein was higher expressed on peptic ulcer induced by stress and NSAID. In addition, administration of 50 mg/kg BB and 100 mg/kg BB fluvoxamine increased the expression of HSP70 protein on peptic ulcer induced by NSAID or stress. This suggests that fluvoxamine is able to improve the condition of the gastric mucosal epithelium by inhibiting apoptosis in stress- and NSAID-induced peptic ulcer. This was possible because HSP70 had a protective effect.

Keywords: peptic ulcer, stress, NSAID, fluvoxamine